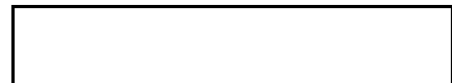


TSSG/APSD/IEB-041/70
11 March 1970

MEMORANDUM FOR THE RECORD

25X1A

SUBJECT: Comments on 29 January 1970
Briefing



25X1A

1. [] stated that the purpose of the contract was to "marry the objective means of evaluation with the subjective analysis." He further stated that the methods presented for the evaluation of the original negative were to be "user oriented, not engineering oriented" and that the data collected "could be related to PI performance." [] later mentioned that evaluation methods usually fall short of the above stated goals because the methods "terminate with the collection of data with no evaluation toward an end product." These same objectives are in the introduction of the Operational Handbook for Evaluation of Original Negative [] 2200901-ONH-1; December 19, 1969).

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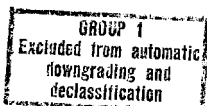
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2. Exception must be taken in the question of contract fulfillment when one considers these stated objectives. Firstly, the handbook does prescribe evaluation procedures and offers a means of processing to objective measurements to obtain answers in terms of MTF, MTFa, AIM Intercept, etc, values. No place in the report or briefing was a correlation between these values and the subjective judgment of the photo interpreter established. Following the meeting, [] was questioned regarding the lack of an established relationship between the objective and the subjective. He stated that at this time, no such correlation exists. Without this correlation, there is no marriage between the objective means of evaluation and the subjective analysis. This aim of the contract has, thus, not been fulfilled.

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3. Secondly, the intent of the handbook was to establish user oriented rather than engineering oriented means of analysis. The methods proposed, however, are similar to those utilized for engineering purposes and [] suggested a comparison between the engineering predictions and the ON evaluation results could be made for engineering purposes. This comparison is valid since both techniques provide similar forms of data. One must remember, however, that the goal of this contract is not engineering but rather an attempt to formulate a technique of quantitative evaluation providing data that "could be related to PI performance." No such relationship is provided and according to [] "is something we need to do in the future." (that is if one can be

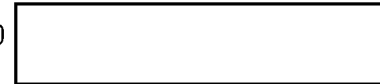
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established[RSB]).

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4. [] was asked to define the term "target" as used in the report and briefing. In answer, he said that the term target meant the area in which the PI accomplishes his readout in order to answer his requirements. The question then posed was how many samples (micro traces) would be necessary to achieve a valid estimate of the image quality in the target area. [] felt that a single sample taken in the proper

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location would be adequate per target. Based on this response I asked how this could be accomplished when experience has shown that interpretation quality of the image is to a certain extent dependent upon the specific image item (vehicle, aircraft, building, etc.) being interpreted and he answered that this was not his problem but rather a question for [] to answer. If such questions aren't answered, how do we know what we are actually measuring?

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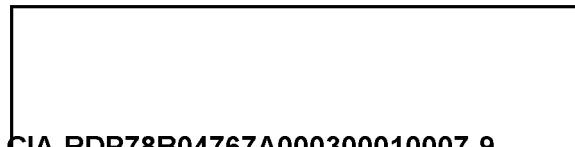
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5. [] statement that evaluation methods usually fall short of the goal of correlating the quantitative with the subjective because the methods "terminate with collection of data with no evaluation toward the end product", is a fitting description of the [] contract product. After all of the data has been collected and processed as outlined in the report, what statement can be made by APSD concerning the PI suitability of the target or mission imagery.

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6. On the other hand, from the research standpoint, the proposed objective data collection and analysis techniques are valid. Once a correlation between the values so derived and the subjective assessment of image quality can be established, a breakthrough in the field of image evaluation will have been achieved. The density and exposure information are valid for tone reproduction analysis and possibly for use in quality control of the duplicate specifications. Some portions of the analysis, especially the edge spread data, might prove valuable to mensuration personnel as an added input to their calculation of the mensuration error percentage.

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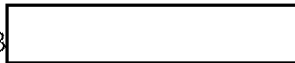


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